TASK ORDER 065
PROVIDER PAYMENT CASE STUDIES

Tver Oblast, Russia: Payment Reform in Five Pilot Sites

March 1997

Tver Oblast, Russia:

Payment Reforms in Five Pilot Sites

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ACRONYMS

CQI	Continuous Quality Improvement
CTDC	Consultation, Diagnostic and Treatment Centers
DRG	Diagnosis Related Group
GP	General Practice/General Practitioner
ICU	Intensive Care Unit
MES	Medical Economic Standards
MIS	Management and Information System
THIF	Territorial Health Insurance Fund
USAID	U.S. Agency for International Development

EXECUTIVE SUMMARY

Tver Oblast has had a fragmented and incomplete implementation of its federal insurance reform legislation which called for channeling funds from various sources through a single account from which all insurance and related payments for health care services would be made. Although more and more facilities are being brought under control of the Territorial Health Insurance Fund (THIF), the share of resources being handled by the Fund is not growing at a commensurate level because there are still laws which require Ministries of Health and Finance to fund certain budget articles.

Reforms to test various payment alternatives to rayons and to individual health facilities have been implemented sporadically. Most sites have gradually come to accept and test per capita-based rayon-level budgets, global budgets for urban hospitals or some form of case-based payment. Global budgets for pilot sites are being phased in, shifting from 100 percent historical-based budgets to 100 percent per capita-based global budgets over approximately a five-year period ending in 1998. Various rules, such as how to apply global budgets when predicted volumes are different than actual volumes of service, or how to adjust global budgets over time, still must be established. In some pilot sites, global budgets have not been fully funded because of insufficient funds.

In spite of incomplete implementation of new payment methods, pilot facilities have benefited from new management autonomy that accompanies these payment methods. Various labor rules are still problematic, but there is new flexibility in hiring and firing staff, as well as the development and use of bonus funds. Clearly, chief doctors and other managers perceive new opportunities to conduct their own reforms in internal management and resource allocation to maximize efficient and effective use of limited funds.

Quality assurance remains primarily retrospective and punitive in nature. But Kuvshinova Rayon has dropped punitive measures and other pilot sites are adopting some positive quality improvement techniques, focusing on utilization management mechanisms such as reducing inappropriate admissions, pre-admissions test duplications and average length of stay; and finding alternatives to inpatient care settings. Improvements in utilization management have been achieved in all of the pilot sites.

Progress toward strengthening the financial and clinical aspects of primary health care is extremely limited and slow. Hospital/polyclinic No. 1 and Vishny Volochok Rayon are paying some attention to primary health care plans for the future. In Kuvshinova Rayon, it is not clear whether the primary health care system will be included in the integrated revenue system, as it should be.

1.0 TVER OBLAST: BACKGROUND

Tver Oblast is located between the Moscow and St. Petersburg Oblasts. Its expanse of 84,000 sq. km. makes it geographically one of the largest oblasts in the central portion of the Russian Federation. It has about 1,570,000 residents, with a low population density and many communities of fewer than 10,000 persons. Its major means of livelihood are agriculture and large enterprises such as excavators, textiles, chemicals, machine construction and printing. Many of these enterprises are currently operating at under capacity.

1.1 Health Care

Oblast health status and health care issues are summarized in Table 1. Tver has an aging population (22 percent of the population is over 60 years of age). Mortality is increasing due to increased numbers of accidents, alcohol abuse and cancers; in one year alone (1992-93) it jumped from 16.0 to 19.4 per 1,000. The birth rate dropped from 8.7 per 1,000 in 1992 to 7.7 in 1993 and 1994. The infant mortality rate was 21.0 per 1,000 live births in 1993 (vs. 9 per 1,000 in the United States).

From a health resources standpoint, the oblast suffers from too little funding—only $118 per person per year in 1993—and poor use of available funds, which focus on health system inputs rather than health outcomes. Specialization has been favored over general and primary care. As a result, there are too many physicians (3.8 per 1,000 population in 1994) and too few primary care physicians (21 percent of physicians). There are too many hospital beds (12.9 per 1,000 population) and an inordinately high number of admissions per capita (21.3 per 1,000 population).[1]

Revenues for health care come from either local or "attached" taxes (e.g., water and land) or "regulated" revenues of the federal government such as the profits tax and the value added tax. The law determines the portion of the regulated taxes that goes to the federal government and the portion that goes to the oblast. Districts can levy some additional taxes and keep the revenues they generate. In addition, a new 3.6 percent payroll tax for compulsory health insurance was introduced in 1993. The payroll tax is collected by the Territorial Health Insurance Fund (THIF) at the oblast level. It remits 0.2 percent to the Federal Health Insurance Fund, which is responsible for oversight and for providing equalization payments to economically disadvantaged oblasts.

[1] Tver statistics are similar to Russia as a whole as Table 1 points out, where problems exist related to both (i) total funding for health care and (ii) the efficiency or relative value of the way funds are spent for health care services. Traditionally, the health sector was viewed as a "non-productive" service sector, and funded only with residual funds available after other programs were funded. Chronic underfunding was matched with poor and often perverse incentives in the use of funds for services. For greater detail on Russia generally, see, for example, the Zdrav*Reform* Russia Country Action Plan, November 1994.

Decentralization and the introduction of the payroll tax radically changed the pattern of financing for health. For example, in 1994, most funds (about 71 percent) for health in Russia were generated by

Table 1

Data on Tver Oblast and the Russia Federation (1991-1994)

	1991	1992	1993	1994	Russia (1994)
Category					
Demographic					
Population (thousands)	1669.2	1660.5	1656.2	1647.5	148,200.0
% 0- 18	N/A	26.0	25.8	25.6	N/A
% 19-64	N/A	59.2	58.8	58.5	N/A
% 65+	N/A	14.8	15.4	15.9	N/A
% Female	54.7	54.7	54.6	54.6	N/A
% Rural	28.2	28.1	28.0	28.2	26.9
Infrastructure					
Physicians (per 1,000 pop)	3.8	3.7	3.7	3.8	3.9 (1993)
Ratio GPs/physicians	21.0	22.0	22.0	21.0	15.0
Hospital beds (per 1,000 pop)	13.5	13.1	13.0	12.9	12.2 (1993)
Resource Use					
Hospital Admissions (as % of pop)	21.4	20.0	20.6	21.3	21.0
Bed Days per Capita	3.7	3.5	3.6	3.7	N/A
Occupancy rates (as %)	74.7	71.3	75.1	79.4	N/A
Avg. length of stay (days)	17.1	17.7	17.3	17.2	17.0
Contacts (per person per year)	N/A	N/A	6.4	7.7	8.9

Table 1
Tver Oblast and the Russia Federation
(continued)

	1991	1992	1993	1994	Russia (1994)
Category					
Patterns of Spending					
Public Spending					
Per Capita	165	1842	24,502	138,494	N/A
Real Per Capita (CPI)	169	244	324	N/A	N/A
Per Capita ($US PPPS)	127	87	118	N/A	N/A
Hospital (%)	N/A	N/A	N/A	N/A	69.0
Ambulatory (%)		N/A	N/A	N/A	N/A
Pharmaceuticals (%)		N/A	N/A	N/A	N/A
Outcomes					
Crude Birth Rate (per 000)	10.1	8.7	7.7	7.7	9.5
Crude Death Rate (per 000)	14.7	16.0	19.4	21.0	15.5
Infant Mortality (per 000)	19.6	18.6	21.5	19.5	19.0
Low Weight Births (% <2500 grams)	5.6	6.0	6.0	7.1	N/A
Abortions (per live birth)	N/A	1.86	1.87	2.0	N/A
Death by Cause (per 000,000)					
Infectious & Parasitic	10.0	11.7	14.7	17.0	N/A
Malignant Neoplasms	233.5	234.2	246.0	239.5	206.6
Circulatory System	914.5	992.9	1192.4	1310.9	837.3
Respiratory System	65.7	64.6	98.9	101.1	N/A
Injury and Poisoning	173.6	218.0	293.8	337.5	250.7
Life Expectancy (at birth)					
Males	61.9	60.2	56.7	N/A	58.2
Females	74.2	73.4	71.0	N/A	71.6

Sources: Tver Health Administration, 1995; World Bank, 1995; 1996

local (oblast and rayon) budgets, and 18 percent came from THIF revenues (World Bank, 1996). Only about 10 percent of health expenditures came from the federal budget, and its funding covered expensive equipment and for public health programs such as AIDS initiatives, Chernobyl victims' aid and epidemiological surveillance. Very importantly, general health budgets and other sectoral budgets from the Oblast Health Authority can be re-allocated—if so desired—across sectors at the rayon level.

Health budgets are to some extent still developed and allocated according to the traditional 18 line item categories for facilities and to general "inputs" such as beds and staff, rather than "outcomes" such as population enrolled, services provided or health status changes. The budgeting system is primarily revenue-driven, and budgets cover only about one-third of funding needs according to local leadership. Federal standards and mandates often exacerbate the inadequacy of budgets. For example, in late 1994 the President decreed a 40 percent increase in salaries for health workers, without attendant appropriations.

1.2 Health Sector Reform

According to the Oblast Health Authority, about 60 percent of all current (1995) health spending is for inpatient care (compared with 45-50 percent in most OECD countries), 24.6 percent for outpatient care, 5.2 percent for dental care, and 13.2 percent for emergency care (ambulance stations and care in combination with inpatient facilities). The overall long-term objectives of the oblast health sector are to increase efficiency and improve quality by moving toward outpatient primary care.

Health Financing. Tver Oblast is plagued by a fragmented and incomplete system of federal insurance reform legislation implementation, which calls for pooling funds for insurance and payment purposes. The changes under the 1993 federal health insurance reform law have been implemented slowly and continue to be in transition.

There are at least four different systems for the financing of health care services:

1) the oblast health budgeting process that covers payment for 28 oblast-level facilities;

2) the THIF, which collects a payroll tax from 27 of 36 rayons for the working population and a capitated payment for the non-working population. The THIF makes payments to facilities and providers in these 27 rayons, which have a total of 50 facilities;

3) the central rayon hospitals and polyclinics, which are covered through the rayon-level budget in the remaining rayons; and

4) some enterprises (e.g., defense manufacturers), which have developed and continue to maintain their own systems of care.

Facilities in the city of Tver are partly under the oblast budgeting process, partly under the THIF. There are also "inter-rayon" facilities for referrals; they were built with oblast-wide funds, but

rayons are still charged for each referral. And, as in every oblast, there are federal contributions for public health initiatives and specialized facilities of care.

While the THIF covers care in the majority of rayons, these areas are mostly rural. Thus, according to the Oblast Health Authority, as of June 1996 the THIF percentage of overall funding in the oblast was a paltry 30 percent. The THIF has a separate pool of money for equipment that comes from the Federal Health Insurance Fund, and decisions on equipment are made jointly with the Oblast Health Authority. Petitions for more equipment can go to either the THIF or Oblast Health Authority. There are two insurance intermediaries, but neither is very big or (apparently) yet accredited.

Payment Systems. Payment systems through 1994 relied on traditional approaches of salary and job security regardless of performance. For example, the chief doctor's salary is based on the number of beds in his facility, rather than on performance or outcomes.

Some financing and service delivery reforms began to occur in late 1994. They included:

- new sources of financing, including selective contracts with firms and out-of-pocket payments and 14 supplemental (voluntary) insurance companies;

- new payment approaches by the THIF based on the number of outpatient visits and implementation of inpatient care payment on a per case basis in nine rayons. The per case approach is based on the Medical Economic Standards (MES) using the ICD diagnosis categories, a local procedure and a pharmaceutical coding system. In effect, this new system was per case adjusted for facility and diagnosis. The Oblast Health Authority has also begun paying on a case-based payment system to the Oblast Children's Hospital, though the remaining oblast-based inpatient and outpatient facilities continue to be paid on the traditional 18 budget articles using input norms.

- hospital physicians remain on salary and salary levels fall into 18 categories based on specialty, tenure, training and qualifications. About 40 percent of the salary pool, though, is held as a "withhold" for incentive bonus payments. A review of a sample of rayons revealed a general pattern of hospital physicians receiving more on average than their counterparts in polyclinics and specialists receive more than therapists;

- piloting of a new cost accounting method in one central rayon hospital; 50 other facilities in the oblast have implemented some cost accounting system;

- introduction of quality control using a system of fines for malpractice and malfeasance; and

- selected reductions in staff below the federally-imposed staff-level caps.

In general, local administrators have expressed interest in developing and implementing new approaches, but they are limited in what they can do by federal standards related to salaries (e.g., chief doctor's salary), hiring and firing, payment methods, and standards and licensing boards. Also,

because the case-based and visit-based payment approach for inpatient and outpatient care created incentives to increase volume, the THIF almost immediately began to examine ways to cap spending by facility.

Quality Assurance. The traditional (and, for the most part, still current) system relies on department heads and a facility-level coordinator for quality within each facility. When a major questionable event occurs, it is generally reviewed by a committee composed of staff from the facility.

Each rayon has a designated quality specialist; at the oblast level, there are also specialists by areas of care (e.g., oncology, TB) who periodically review patient care records and the structure and processes of care at facilities within the oblast. For example, a specialist typically visits a central rayon hospital 5-6 times per year to confer with a facility's head physician and quality coordinator on patient care or individual provider issues. Education appears a more prominent remedial measure than do penalties and sanctions.

In late 1994 and early 1995 the THIF developed its own independent committee of experts. The experts, who are *not* employees of the Fund but rather practicing physicians, have developed empirically based standards of process measures and outcomes of care. These standards are used as reference points for retrospective record review and facility-level reviews. Substandard care can result in payment denials. (Oblast health experts do not have financial sanction authority.) The THIF quality checks apply only to the 50 facilities which receive THIF funding. The THIF also is involved in a number of efforts such as assisting in the development of licensure standards for hospitals and updating medical equipment standards.

Management and Information Systems. By early 1995, the THIF in collaboration with the Oblast Health Administration had developed a summary statistical system to provide month-by-month statistics on utilization and financial information. Nevertheless, Tver lacks a patient-level information system that would systematically merge administrative, demographic, utilization and financial information.

The Oblast Health Authority and the THIF understand the importance of standard patient-based systems and the relevance of improving information for tracking costs and improving quality assurance. Beyond these general areas, however, their priorities diverge. The Oblast Health Authority's priorities are the following:

- development of a patient registration and record system for both polyclinics and hospitals;
- cost accounting systems to track use of financial resources at the provider level, to improve decisionmaking both at the facility level and the oblast budgeting level; and
- data that encourages a "prioritization of needs" processing, to help identify in a timely way the specific strategic and operational issues related to pharmaceuticals, supplies, equipment and manpower.

THIF priorities are the following:

- provider payment, including processing of bills, authorizations of payments and auditing responsibilities;
- pricing and rate setting, including the development of uniform, standardized data collection systems; and
- use of available and simplified software to the extent possible.

2.0 DONOR COLLABORATION: ZDRAV*REFORM* AND THE WORLD BANK

For nearly 18 months, from late 1994 to mid-1996, the Zdrav*Reform* Program and the World Bank worked with counterparts in Tver Oblast to design and prepare for health sector reform, and to begin its implementation. (Although Zdrav*Reform* activity in Tver has ceased, the Bank program continues.)

2.1 Rationale for Collaboration

The collaboration was perceived as an opportunity to build on relative strengths of each donor program. The Bank loan program addresses several areas of health status, organization and financing of care, and delivery of services. The primary areas are cardiovascular disease, general practice (GP) and family medicine, maternal and child health and family planning, and restructuring provider incentives including a consolidated management and information system (MIS).[2] Bank loan monies could be used for tangible items such as new facilities, equipment, supplies, and pharmaceuticals. But, in the environment of general economic downturn and chronic underfunding of health care, there also was a recognized need for analytic and decisionmaking tools for first piloting and then expanding restructuring reforms to ensure their long term sustainability. Zdrav*Reform* was a three-year program funded by the U.S. Agency for International Development (USAID) to help re-organize the financing of care and delivery of services in the Russian Federation and thus was in a position to provide the analytic tools.[3]

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[2] The components of the World Bank Loan program are:

1) **Restructuring Cardiovascular Health Services** that develops primary and secondary prevention programs focused at the district therapist and family practice level of care. There will also be population-based media and educational programs and activities including (i) health awareness survey, (ii) health promotion materials, (iii) health status inventory, (iv) a new diabetes center, (v) medical equipment for detection of risk factors. Funds also will be used for diagnostic equipment and emergency medicine, such as new and re-equipped ambulances and training emergency response medicine;
2) **Family Medicine** to facilitate the introduction of family physicians as principal primary caregivers, gradually replacing the "therapist." Building on a strong tradition of teaching family medicine at the Tver Medical Academy, the component would (i) strengthen the teaching capacity at the Academy, (ii) help establish clinics for graduates of the retraining program for family physicians initiated in 1993, and (iii) upgrade six polyclinics and develop a network of Consultation, Diagnostic, and Treatment Centers (CDTCs) to provide outpatient referral support to the new family physicians;
3) **Maternal and Child Health and Family Planning** will introduce changes in clinical practice standards, building on recommendations of the federal level work groups. It also will create the physical environment to support these changes including an antenatal center, 20 "baby-friendly" hospitals and limited equipment, an interrayon perinatal center, and a family planning and reproductive health center;
4) **Restructuring Provider Incentives** to provide support for development and implementation of improved provider payment, quality assurance and management information systems.

Other activities are a National Training Program in Family Medicine, to design models of family practice for Russia; curriculum and faculty development, including establishment of teaching clinics; and establishing standards for quality improvement and certification and a Monitoring, Evaluation, and Dissemination component, to develop tracking indicators, evaluation activity, training of evaluation methods staff, and workshops and publications related to duplication and replication of best practices.

[3] The Zdrav*Reform* program was a three year program funded by the U.S. Agency for International Development (USAID) to improve the health of the Russian population in support of economic and democratic development. The program grew out of the 1993 Clinton-Yeltsin Vancouver Summit where the two leaders pledged support and mutual cooperation across a number of sectors, including health. Initiated in January 1994, the program was a unique public-private partnership between USAID and a consortium of private U.S.-based firms headed by Abt Associates designed to support and accelerate health care reforms in Russia. The program nurtured and accelerated the opportunities for public and private sector institutions to test and implement new organizational, management and financing structures (pilot projects referred to as "Working Models") for health services delivery systems as Russia moves toward a greater reliance on a market-oriented economy. Zdrav *Reform* activity has spanned across multiple sites throughout Russia. The program concentrated resources to develop working models in a focused number of geographic (oblast) sites – four in Western Siberia and two in Central Russia. The oblasts in Western Siberia (Kemerovo, Tomsk, Novosibirsk and Altai Krai) are geographically contiguous sites chosen for their proven leadership in health care sector experimentation and reforms since the 1960s. Initial tools and models were initiated in these sites in

Zdrav*Reform* collaboration took place primarily in the design of and preparation for the loan program and focused on one component of the loan program: restructuring provider incentives and developing a consolidated MIS. Pilot sites were chosen to design, develop and implement new payment and management approaches, information systems and quality assurance processes. Eventually the sites will serve as launchpads for oblast-wide reforms, and they will serve as initial markers for the new approaches over the span of the loan program.

The MIS activity under this component has been particularly ambitious and broad-based. The THIF, in collaboration with the Oblast Health Authority, is developing a consolidated information system that merges financial, utilization, practice and demographic information from the level of the individual patient and individual practitioner to the oblast level. An Information Processing Center in the oblast (to be established within the Oblast Health Authority) will link the THIF and the individual facilities in a parallel processing client server network patterned after similar systems in Samara, St. Petersburg and Kemerovo Oblasts. The systems will cover the following applications: THIF financial tracking; provider payment processing; utilization and practice management; quality assurance; actuarial modeling for development of service and payment norms; ambulatory care patient registration; hospital discharge; and monitoring project activities. Parts of this complex information system are already being tested (e.g., provider payment, utilization) as separate systems. Others (e.g., THIF financial tracking) will be started from scratch.

Bank loan funds will be used to develop and test the individual applications in 14 different facilities and link them through the Information Processing Center. Each application will be tested in two or more facilities. Pilot testing will *take place during the first year of the Bank loan project,* following testing of new provider payment and quality assurance systems.

Zdrav*Reform*-funded activity related to MIS was to focus on assisting with design and launching of this pilot phase, with additional funds under the Bank program for development of custom application programs. Again, the World Bank stipulated that acceptable plans for oblast-wide implementation was *a condition of disbursement under the Bank's loan program.*

2.2 Timing of Donor Collaboration Activity

Table 2 provides an overview of timing and activity of donor collaboration that was developed in 1994. As the table shows, the Zdrav*Reform* Program would collaborate with the World Bank program by providing "up-front" technical assistance and training to provide the tools and techniques for both implementing and sustaining these reforms long term.

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the early portion of the program. Later, tools and techniques were applied and adapted in two oblasts near Moscow: Kaluga and Tver. In addition, there were grantee sites in 19 other cities, with 38 grantees altogether.

Table 2

World Bank/Zdrav*Reform* Collaboration in Tver Oblast

	CY 1995	CY 1996	1997 - 1998 [4]
Zdrav*Reform*	Technical Assistance and Training, Grant Funding Related to Loan Program Strategy and Pilot Design: - Quality Assurance - Management and Information Systems - Payment and Financial Management	Follow-up TA and Training: - Working Models Finalized - Pilot Projects Implemented	1) Technical Assistance and Training Related to Oblast-wide Implementation of Pilot Projects 2) Roll-out and Dissemination
World Bank Health Reform Project	1) Bank Loan Proposals Finalized 2) Bank Review and Approval Process	1) Bank Loan/Funds Flow Begins: 2) Capital, Equipment, Supplies, Personnel	Contingency Loan Fund Available for Oblast-wide Implementation of Pilot Projects

[4] Zdrav*Reform* activity dependent upon contract option extension.

Teams of experts from both programs worked together at the initial phase from late 1994 to mid-1995 to design the program and identify pilot sites. From early 1995 to mid-1996, the Zdrav*Reform* Program provided support to develop and implement new systems at pilot sites and with key health leadership in the oblast.

Current plans call for finalizing the Bank loan approval process by early 1997; at that time, the loan program can actually begin. Follow-up Zdrav*Reform* work in 1997-98, however, will not take place due to the phase out of the Russian component of the Program.

3.0 METHODS AND OUTPUTS OF ASSISTANCE: ZDRAV*REFORM* IN TVER

Starting in early 1995, the Zdrav*Reform* Program supported the Tver health sector in several ways. Support focused on five areas of outputs:

1) **Policy Development**: establishing a legal/regulatory framework for health care reform;
2) **Quality Improvement**: new approaches to enhance the quality of care in hospitals and polyclinics;
3) **Finance and Resource Management**: new approaches to manage the flow of funds and create new incentives that will increase productivity and quality of services;
4) **Information Systems and Organizational Management**: establishing modern, computerized information systems and management systems to support the reforms in quality of care and financing; and
5) **Dissemination**: sharing lessons on successful working models and systems from other sites in Russia, to promote replication in Tver and elsewhere in Russia, and for developing a new generation of health sector leadership.

3.1 Pilot Site Identification

Resources were concentrated in an initial pilot site program to design and test new approaches and systems. Site selection was done by Zdrav*Reform* in collaboration with the World Bank team and counterparts from the Oblast Health Authority and THIF. The six pilot sites chosen were:

- one oblast facility in Tver City: the Oblast Children's Hospital;

- two municipal facilities in Tver City: City Hospital and Polyclinic No. 1 (Separate Sanitary Medical Station, or OSMC), and City Hospital and Polyclinic No. 6; and,

- three central rayon hospitals and associated polyclinics: Kuvshinova Central Hospital and Polyclinic, Nelidovo Central Hospital and Polyclinic, and Kalyazin Central Hospital and Polyclinic. Tver counterparts later agreed to extend the Kuvshinova Rayon pilot site to the entire rayon, not just the central rayon facility. The rayon includes feldsher stations, physician stations/posts, and 2-3 small district hospitals (which resemble nursing facilities). The THIF provides about 70 percent of funding in the rayon.
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Selection criteria used by Tver counterparts included:

- all facilities except the Children's Hospital were closely affiliated with the THIF;
- facilities had well-trained staff and expertise in payment reform areas
- facilities had optimal chances for accuracy in data reporting in financial and clinical areas;
- facilities were recognized as "leaders;"
- many facilities already were piloting new MIS software of local consultant Sergei Turkin;
- facilities had potential for GP/family medicine integration with the World Bank loan component;

- facilities were representative of all levels in health system hierarchy; and,
- facilities displayed "readiness" for reform as measured by quality of staff, leadership and interest in reform policies.

Table 3 provides descriptive data on each facility.

A few months after the agreement, Tver leadership requested that Nelidovo Central Hospital/Polyclinic and Kalyazin Central Hospital/Polyclinic be dropped from the pilot site program. The entire Vishny Volochok rayon was substituted. This brought to the pilot project a site with both urban and rural areas and a richer array of providers and facilities than the two eliminated sites, which were only central rayon facilities. The Vishny Volochok Rayon chose a progressive reform model—a per capita "rayon-at-risk" model—for actual testing.

A multi-year roll-out plan also was developed. In general, it called for expansion of provider payment reforms in Years 3 and 4 under the loan program to all of Tver City, Rzhev Rayon, and Vishny Volochok Rayon. In addition, the demonstrations would be expanded rayon-wide in all pilot sites. By the end of Year 5, there would be oblast-wide implementation.

3.2 Outlining a Pilot Site Strategy

In late summer 1995, a general strategy for technical assistance and training and an outline of specific tasks were developed with Tver counterparts and the World Bank. The plan guided Zdrav*Reform* staff as they developed task orders and associated budgets for USAID approval.

In October 1995, a Memorandum of Understanding (MOU) between the Zdrav*Reform* Program and the oblast governor was signed, with the general review and approval of the World Bank staff. The MOU reflected the interchange between Zdrav*Reform* experts and Tver health sector leadership that had taken place in September and October: namely, agreement on the specific reform models to be tested, team leaders for each substantive area and the implementation plan for specific site-based approaches, with expected timelines for assistance and training. Boxes 1 and 2 show the reform models chosen, approaches and expected timelines in the original MOU.

Table 3

Tver: Initial Pilot Sites and Facilities

Facility	Bed Size	Physicians	Medical Staff	Payment Reform Approach	Issues/Comments
Oblast					
Children's Hospital	375	109	517	Case-Mix Adjusted Per Case	Cadre of in-house experts
Municipal (Tver City)					
Hospital/Polyclinic No.1 (OSMC)	500	234	844	Per Capita or Fundhold/ GP Fundholding tie-in	Located in Zavolski District (pop. 130,000)
Hospital/Polyclinic No.6	585	384	1122	Per Capita or Fundhold/ GP Fundholding tie-in	
Rayon					
Kuvshinova Central Hospital/Polyclinic	195	34	248	Per Capita or Rayon At-Risk GP Fundholding tie-in	Agreement to include entire rayon/tie to CDTC
Nelidovo Central Hospital/Polyclinic	550	101	706	Per Capita or Fundhold/ GP Fundholding tie-in	Largest central rayon facility in pilot
Kalyazin Central Hospital/Polyclinic	240	45	339	Per Capita or Fundhold/ GP Fundholding tie-in	

Box 1

IMPLEMENTATION PLAN

Facility or Geographic Area

Five Pilot Sites:
Oblast Children's Hospital
Hospital and Polyclinic No. 1 ("OSMC"), Tver City
Hospital and Polyclinic No. 6, Tver City
Central Rayon Hospital and Polyclinic/Vishny Volochok Rayon
Central Rayon Hospital and Polyclinic/Kuvshinova Rayon

Team Leaders

Dr. Alexander Zlobin (Provider Payment),
Dr. Boris Mogilevsky (Quality)
Dr. Alexander Molokaev (Management and Information Systems)

Demonstration Site Overview of Approaches

- Payment Methods

Inpatient Case-Mix Payment Refinements (Children's' Hospital; Hospital No.1)
Polyclinic Fundholding (Polyclinic No.1)
Capitation Arrangement, with flexibility for experimenting with inpatient and outpatient methods of payment, including incentive-based systems for personnel (Vishny Volochok Rayon; Kuvshinova Rayon; possibly designed for Hospital/Polyclinic No.1, to be determined by January 1996)

note: Hospital/Polyclinic No.6 payment approach to be determined by December 1995

- Management and Information Systems

Standard Data Elements—Clinical, Financial, Administrative
Hardware/Software Systems Design
Utilization Management
Cost Accounting Systems
Management Issues, e.g.,
- *Contracts for Facility Autonomy*
- *Contracts for Staffing*
- *Board of Directors*
- *Training of Staff*

Financial Modeling/Actuarial Data Base Development
Financial Management

- Quality Improvement

  Continuous Quality Improvement (CQI) Methods and Approaches
  CQI process Developed in Pilot Sites
  Complementary Measures and Systems Related to New Payment System, e.g.,
    - *Ambulatory Care Measures*
    - *Hospital Admission Criteria*
    - *Referral Criteria*
    - *Discharge/Follow-Up Care*

  Model Clinical Care Pathways

Box 2

Suggested Implementation Timeline

October-December 1995

Design and Specify Approaches in Pilot Sites
Develop Model Contractual Responsibilities
Data Base Development
Develop and Award Grant Application for Pilot Sites
Begin to Establish Analytic Tools

Suggested Month-by-Month Activities

1) October

Evaluation of current payment approaches at pilot sites
Begin to examine specific payment design features of alternative payment approaches
- *capitation/fundholding*
- *case-mix adjustments for hospital care*
- *how physicians paid*
- *use of withholds*
- *phase-in approach (e.g., fully at-risk in Year 1?)*

Develop grant application for pilot sites
Assemble data for years 1990-1995

2) November

Begin hardware and software design
Develop uniform data set
Quality workshop
Develop model contracts for payer, facilities, and staff
Initiate capacity building at pilot sites

3) December

Begin to develop quality indicators, inpatient and outpatient
Develop analytic tools, for example
- *financial/demand modeling*
- *cost accounting methods*

January- March 1996

Continue Development of Analytic and Design Tools
Finalize Payment Design of Pilot Sites
Integrate Analytic Tools with Pilot Site Capacity to Implement Models

Suggested Month-by-Month Activities

1) January

Analytic Tools, for example,
- *utilization management*
- *refining case-mix measures*

Finalize Payment Design in Pilot Sites
Quarterly Reporting of Results -- Tver and Kaluga

2) February

Analytic Tools, for example,
- *standards for levels of care (e.g., day-care settings)*

Develop Preliminary Capitation Rate
- *risk adjust*
- *high risk pools*
- *disseminate for review and comment*

3) March

Final Payment Designs and Adjustments
Develop Simulation Data Base
Finalize Model Contracts

April-June 1996

Implement Pilot Projects
Simulate Flow of Funds through Contracts
Integrate MIS and Quality Tools with Payment Changes

1) April

Begin Simulation of New Payment Approach
Integrate New Quality Measures and Processes
Integrate Management and Information Systems Components
Quarterly Reporting of Results -- Tver and Kaluga

2) May

New quality of care tools, e.g.,
- *Clinical care mapping*

Continue simulation of new approaches

3) June

New quality of care tools, e.g.,
- *Clinical care mapping*

Continue simulation of new approaches

July-September 1995

Evaluation of Pilot Payment Models
Decisions to Refine Payment Models
Full Implementation of New Payment Models

1) July

Begin evaluation of simulation results
Evaluation of payment models
- *financial*
- *information/management*
- *quality*
- *access*

Quarterly reporting of results: Tver and Kaluga

2) August

Finalize evaluation
Decisions to refine payment models

3) September

Full implementation
- *payment systems*
- *management/information*
- *quality components*

4.0 FINDINGS, RESULTS, PRELIMINARY IMPACTS

Overall, results to date in Tver have been mixed. A number of pilot sites have made progress in the development of new payment methods and use of financial resources. The payment models ultimately chosen by the sites were the per capita-based rayon-level budgets, which place the rayons at risk for delivering health care under a fixed budget, and global budgets for urban hospitals, which are phasing in age/sex adjustments.

Until now, oblast-level efforts related to financing and development of an MIS plan pivotal to the World Bank loan program have floundered, although recent technical support points to potential gains in winter 1997.

Also at the oblast level, two points related to financing and resource management are notable at this time. One relates to *sources of funds*, the other to *uses of funds*:

- **Fragmentation of Funds Flows**: there continues to be a lack of implementation of the new insurance reforms laws which call for integration of funding, where all funds for health care services are channeled through the THIF. Instead, the fragmentation of funding sources described in section 1.2 continues. In the short run, this creates opportunities for cost shifting, where each facility could charge higher prices per service and/or charge more individual cost items to those payers who are able to pay more. This issue threatens to end World Bank loan program.

- **Pilot Site Progress in Restructuring Incentives**: Oblast Governor Platov signed an edict in spring 1996 waiving normal oblast-level rules and regulations and allowing pilot sites to begin restructuring and implementing reforms. This waiver process is a potential model for all of Russia, though federal-based normatives may still be a problem.

4.1 Fragmentation of Funds Flows

Tver has taken steps forward and backward over the last few years. General facilities in all 36 rayons, as well as the general acute facilities and the Oblast Children's Hospital and Main Hospital in Tver City, will come under the THIF, with initial phase-in occurring January 1-April 1, 1997. The oblast will retain only specialized facilities and the maternity homes. However, the percentage change in relative share of funds between the THIF and the Oblast Health Authority is not expected to change from the 1996 ratio of approximately 60 percent THIF and 40 percent Oblast Health Authority.

The agreement to consolidate the facilities under the Fund, and the rationale for percentage share not changing is due to a recent federal law and the October 5, 1996 decree by the Federal Ministers of Finance and Health (with the support of Federal Fund) which makes the "founder" of the facility responsible for Article 3 of the health budget—utilities and maintenance costs. In virtually all cases, the founder is the local rayon, municipal or oblast government. Local rayon

administrators have some flexibility in the level of funding, depending upon social sector allocations from the oblast and upon additional taxes raised at the local rayon level.

This decree and subsequent budgeting approach would appear to blunt the Fund's ability to develop a true global budget, since Article 3 costs are 20-30 percent of all facility costs. This decree is expected to have the incentive of keeping open marginal facilities, since there are two separate payers for care, and the Oblast Health Authority might provide monies for these fixed costs regardless of level of efficiency and effectiveness of the institution. Pilot site leaders confirmed that it is their intention to retain all fixed assets with the addition of this decree.

At the individual facility level, revenues from different payers are not pooled because oblast- and rayon-level revenues are allocated for specific budget chapters or specific budget items. The inability of a health facility to pool these various sources of revenue into a single revenue account further blunts the incentives under the global budget, because there is little possibility of reallocating funds from one budget article to another. The only facility where combining all revenues from different payers into one account is permitted is Kuvshinova, which was granted flexibility by the local rayon administrator.

4.2 Global Budgets

The global budgets for pilot sites in the initial year are constructed using a composite of historical budgets (80 percent) and per capita-based global budget allocations adjusted for age/sex differences (20 percent). The composite budget ratio is based on a budgetary data set integrated from THIF and Oblast Health Authority information; a three-year data base (1993-1995) was developed, and the average (trend line), adjusted by diagnostic categories, was used.

This process of blending historical to per capita global budgets is used in Kemerovo (an oblast in Siberia), whose Ed Freed recommended as a transition approach. (Current contracts using the 80:20 blend data run for only six months, and the contracts expired January 1, 1997.) It also was useful because person-based data were not available to adequately adjust the per capita rate: data were available only for age groups 0-2, 3-15, 16-54 (women), 16-59 (men), 55+ (women), 60+ (men).

Global budgets were adjusted to encourage efficient use of inpatient services. First, to discourage hospitals from admitting patients who do not require inpatient services, an estimate of inappropriate hospitalizations was used to adjust the global budget downwards. Expert panels of physicians made the estimate by identifying inappropriate admissions from a review of 10 percent of patient charts and extrapolating to the entire health sector. Second, for facilities with both a polyclinic and a hospital, the share of funds from reduced inpatient admissions was transferred to the polyclinic budget to maintain budget neutrality.

The THIF currently plans to move to a 50 percent historical budget/50 percent per capita payment rate in 1997, and then to a full 100 percent per capita-based budget approach in 1998, though it is not clear if the needed data will be available by then. The Fund has requested all

facilities to report data in their particular catchment area by 10-year increments. The data would serve for analysis and budget negotiation. This approach would be useful in that calculation of per capita allocations for pilot sites will affect allocations for other facilities. The data are due on July 20, 1997, but some facilities already have responded that the data are not available.

The THIF director initially assumed that the historical budgets would approximate budgets based on the per capita risk-adjusted (age, sex, other) approach although no empirical validation confirmed this. There was little or no negotiation between individual facilities and the Fund for agreement on the final budget amount: The Fund developed the calculation, and the budget was set out in a contract. In fact, an analysis by the Fund's chief economist has showed that several pilot site facilities deviate from the Fund's budget calculations by more than 20 percent—either above (Vishny Volochok, 47 percent; Kuvshinova, 28 percent) or below (Hospital/Polyclinic No. 1, 37 percent; Hospital/Polyclinic No. 6, 21 percent). As might be expected, depending upon their current situation, chief doctors of affected facilities have complained about the Fund moving away from utilization-based analysis approach or that it is not moving quickly enough toward the per capita arrangement. They also point out other problems, such as the fact that old debts are not included in the global budget calculations.

Global budget payments are supposed to be made monthly, based on the agreed contract terms. However, due to insufficient funding, payments have been erratic in terms of timing, and often they are less than the amount called for in the contract. The Fund claims it has little ability to estimate future revenue flows from the Health Authority and employers, thus hampering its ability to develop and comply with precise contract amounts or processes.

No risk pooling is done, i.e., no funds are set aside by the payer to pay for unexpected financial risks. However, individual facilities have set aside some funds to cover unforeseen expenses that are not covered by global budgets. Rules have not yet been established on how to use surplus funds that occur when the hospital does not fully use up its global budget by the end of the year because of lower-than-expected volume of services. Most facility chiefs expect to split surpluses between salary bonuses and new equipment purchases. If there is a surplus of admissions relative to volume planned under the contract, payment will be determined on a case-by-case basis.

A budget update formula will be based on the salary inflation update used by the Ministry of Economy, plus the government's per capita update. The update formula has no other adjusters in it at this point.

4.3 Facility Autonomy

Chief doctors at the pilot sites have "new rights" under the program to buy equipment and supplies at their discretion. Labor rules still are problematic in that salaries must be based on federal system of salaries, but there is new flexibility in hiring and firing of staff, as well as development and use of bonus funds.

MES can be changed at the facility level on an informal basis at any time. However, to change the standards for the entire oblast requires formal review and approval at the oblast level. As a result, Fund leadership decreed that the MES were to be used for planning purposes only, not for day-to-day patient care, and that changing the standards was not a useful exercise in terms of meaningful impact on behavior.

Chief doctors and leaders claim the new system has re-oriented attitude and behavior towards greater efficiency and quality, and that extra resources have already been generated for equipment and salary bonuses. There also is a perception of better teamwork and closer coordination of care under the new system. Chief physicians claim that department-level initiative and innovation are more pronounced, and that decisions are increasingly "bottom-up" rather than only "top-down."

4.4 Quality/Physician Fines and Bonuses

Pilot site facilities have begun to develop new quality improvement systems, but in day-to-day operations the old quality control system of fines and penalties remain in place. This means that there are now two quality systems in some facilities, with the new system having been added to the old rather than replacing it.

The old system of fines is used in a complicated, formulaic way to develop incentive payment bonuses for physicians. Individual physician performance is assessed against expected levels of performance. If standards are met on individual indicators, a score of '1' is given. All indicators are weighted, often having different weights at different points in time to reflect local priorities. Indicators are "added-up" and the ratio of real-versus-expected is multiplied by some standardized bonus amount available for distribution.

The new system of quality of care indicators and improvement is localized, with each facility developing its own set of indicators. The Fund also has developed its own outcome indicators.

4.5 Primary Care Training

Progress in training primary care physicians remains unacceptably slow. The local Tver Medical Academy graduates 20-25 family doctors each year. Currently, there are two placements at pilot sites, in Kuvshinova and at Hospital/Polyclinic No. 6. But in neither case is the payment incentive different for these practitioners (see below for more specific discussion of payment incentives), nor do they have separate office facilities outside the polyclinic structure. Several chief doctors complained of bureaucratic delays in allocation of space and equipment for recent graduates.

5.0 PILOT SITE REPORTS

Despite the problems cited in the preceding section, an important point should not be lost—that individual pilot site progress has been made. Kuvshinova Rayon appears to be the leader among the pilot group, but all have reported similar areas of analytic activity and organizational restructuring in support of long-term reforms; these activities include tracking inpatient and outpatient costs, with analysis of inpatient flows, and analysis of utilization management processes, with a focus on identifying:

- inappropriate admissions;
- duplication of pre-admission tests;
- opportunity for shortening lengths-of-stay; and,
- alternatives to hospital care, such as care on an outpatient basis or in day care centers for "social cases."

Following are site-by-site profiles of the pilots that include basic background information, progress to date, and challenges that remain.

5.1 Oblast Children's Hospital.

This is an oblast-wide referral center. The payment design originally chosen was refined case-mix adjusted payments for inpatient care. In October 1995, the facility moved from bed-day payments to average rate per department, then refined the case mix system in 1996. It has developed its own simulation model.

The current per case system is department based, with 10 categories within each of 10 clinical departments in the facility (i.e., approximately 100 payment categories). The categories are based on diagnostic grouping (within departments), then weighted or modified by a severity code (1-10) which is determined by a committee of physicians. The severity code is based on clinical complexity, not resource use. The relative weight is then multiplied by i) a ratio of department budget[5] divided by normative or planned bed days, and ii) average length of stay (ALOS) by diagnostic category and adjusted for surgical intervention. The ALOS is based on facility-specific experience. The facility has observed a 5-7 percent increase in severity (possible code creep) in the past year. Payment per case is standardized each month to adjust for changes in ALOS and levels of severity, thus maintaining a type of budget cap (though there is no cap on volume).

Polyclinics connected with the Children's Hospital will continue to use a per service payment, with rates set for services. The polyclinic is a referral center, with specialists only; it has no primary care physicians. It has developed and drafted a fee schedule/reimbursement system for transfers and referrals from Fund facilities which will be used in the interim before moving under the Fund.

[5] Paraclinical costs are not included.

The payment system of the future for the hospital is still unclear. Hospital managers initially expressed interest in a global budget approach, but the Oblast Health Authority responded negatively. In late June 1996, they again expressed interest in a global budget, this time to the World Bank team, but the Bank was concerned that, under a global budget, the hospital would lower admissions and shift patients to facilities reimbursed by the THIF or by the oblast from another budgetary allocation. The potential for cost-shifting renewed the importance of finding ways to integrate sources of funding. (The recent decision to bring the Children's' Hospital under the THIF could alleviate cost shifting.) Hospital managers also indicated that each department will have its own "mini-global-budget" for physician bonus pools and incentive arrangements.

In December 1996, facility leaders indicated they had scrapped plans for a global budget, due to "insufficient funding." The facility will continue to utilize a DRG-type system for reimbursement from the Oblast Health Authority. Facility leadership is not happy that they will be moving to THIF control in 1997 and may appeal the decision. At the same time it is probably true that the oblast leadership has not been as interested as it could have been in some of the new systems being developed.

The facility submits claims on each admission, but due to insufficient funding it is reimbursed only on the basis of salaries. Nevertheless, it was reported in June 1996 that salaries had increased 35 percent over the preceding year (presumably due to volume change). Physician incomes are based on the minimum federal salary normative[6] plus bonuses. Bonuses are based on productivity above the complexity-adjusted estimated normative, plus the aforementioned quality measures, a series of fines and penalties for deviation from the established MES developed by Dr. Galina Zsarik of Kemerovo. Fines also can be levied for inappropriate lengths of stay, violation of labor discipline (e.g., tardiness), deviation from the infection control regime, false documentation, lack of medical record documentation, and justified complaints from family members about quality of patient care. The fines are subtracted out of the bonus amount. Thus, the physician with the fewest bad marks receives the highest bonus.

The facility finished a review of utilization patterns in mid-1996, including:

- diagnosis-specific ALOS evaluated to identify inefficient areas; alternative approaches to care "traced out;"
- monthly admissions analysis, to identify types of cases for transfer to day-care department;
- department-specific day care beds were prepared for utilization; and
- appropriateness of in-hospital diagnostic tests and specialty consultations.

The hospital also has a very promising quality improvement initiative, which includes measures on 30-day rehospitalization, surgical complications, infections, morbidity within the hospital, unexpected ICU referral, actual versus predicted mortality, status upon discharge, and patient satisfaction levels. Three-quarters of data have been collected for purposes of establishing a baseline and denominator for quality measure ratios.

[6] The salary levels depend upon hours worked, experience, specialty.

Hospital managers expressed concern that there is no facility-based MIS strategy for quality, management, or payment systems. The facility has a good team of analysts who collect utilization and cost data and have made presentations on their micro-costing work at several forums. They have also been instrumental in teaching their approaches to counterparts in Kaluga. Nevertheless, this pilot site has been a disappointment in that there has been no apparent or visible change in development or policy for several months.

Future activity planned include reducing ALOS for targeted diagnostic categories, including planned surgeries. Overall, ALOS has dropped in the last year from 16.0 to 14.5 days. However, the number of admissions has increased from approximately 2,500 to 2,900 per quarter, indicating some review of appropriateness may be necessary.

5.2 Hospital/Polyclinic No. 6

This facility includes five polyclinics, two of which are children's polyclinics. It has 585 beds altogether. Its catchment area at the beginning of 1995 was approximately 127,000. Its revenues in 1994 included 200 million rubles for selective contracts with enterprises for employer check-ups, etc.; approximately 9 billion rubles from the THIF (it is one of two facilities in Tver City to be in the Fund network) and a line item budget for pharmaceuticals and other items.

In 1995 and 1996, 58 percent of spending was on hospital care, paid on the basis of traditional budget categories, with physician incentive bonuses. The facility expected to go to case-mix payment per admission in early 1996, but it never occurred. The leadership has attempted to retain the historical profile as a cluster of facilities with a defined catchment area, while also making it a referral center for specialized care.

The hospital did some re-structuring in early 1996. The therapeutic department closed 15 beds. The status of the cardiology department was raised to that of city-wide referral center while part of the patient load was moved from hospital to polyclinic. Plans were to merge the department with the thoracic surgery department. New pulse monitoring devices were implemented.

In late spring 1996, methods to increase referrals to outpatient care and day care were reviewed. Reviewers found, for example, that 28 percent of admissions have been due to ambulance referrals. Also, many admissions have been "social cases," particularly alcoholics.

More recently, several new initiatives and programs on pre-admission utilization management—decreasing duplication of inpatient-outpatient testing and pre-operative surgical days in the hospital, and appropriateness indicators for admissions—have been developed in conjunction with the global budget contract. And beds have been reduced again: 15 in pediatrics, 10 in surgery, and 10 in pulmonology.

Hospital economists have been trained to use electronic tables which allow "multi-option calculations of hospital performance indicators." In summer 1996, improved monitoring of internal hospital departments was initiated through a collection of more detailed data and continued analysis

of polyclinic patient flows. The facilities also started data collection to serve as denominators for ambulatory and hospital indicators.

The reported share of hospital-based inpatient and outpatient spending decreased significantly from 58 percent to 46 percent for hospital-based care. The spending on paraclinical services has increased from 17 to 21 percent, but the inpatient and outpatient portions cannot be disentangled. Other shares of spending have remained unchanged: polyclinic, 26 percent; dental, 5 percent; day care, 1 percent.

Reported admissions dropped between October 1995 and October 1996: total hospital admissions from 959 to 744; admissions to pulmonology from 112 to 73 per month, in general medicine from 113 to 97 and in pediatrics from 108 to 34. Reported ALOS dropped 17.2 to 16.8 overall, from 18.1 to 17.6 in cardiology and from 28.8 to 23.1 in endocrinology. Some departments have experienced increased ALOS (perhaps due to a more severe mix of patients). Personnel has been reduced by 1.5 percent for physicians and 5.5 percent for nurses.

Currently, there is no physician or personnel bonus system in operation due to insufficient funding. The indicators developed for the bonus system are very similar to those of the Children's Hospital (see above), with a few changes to the indicator list to reflect an adult patient population. Hospital/Polyclinic No. 6 has also initiated a quality improvement system with roughly the same indicators as the Children's Hospital.

Facility leaders are disappointed that there is no MIS design or strategy in place. They expressed interest in developing a first draft design within the next 30-90 days.

5.3 Hospital/Polyclinic No. 1

This facility's catchment area in 1995 was 128,000. Of this total, 25,000 are persons covered by employer contracts. Patients covered by the contracts have the same benefits package, but the "quality is higher" through preferential selection for diagnostic tests, pharmaceuticals, and treatments.

In January 1996, the Center expected to move from bed-day payments to average rate per department (nine payment categories), but this never occurred. The facility wants to experiment with GP fundholding in the future. Currently, 83 percent of funds come from the THIF and 17 percent from municipal government (for capital and pharmaceuticals). According to the chief doctor, the global budget provided by the Fund was about 20 percent below internal calculations.

In early 1996, a cost analysis was performed to estimate savings that would accrue from reductions in admissions, pre-admission screening and unnecessary diagnostic tests, and from referrals of "social cases" to alternative settings of care. A preliminary analysis showed that 7-10 percent of cases were "social cases" and could be transferred to other settings. The original analysis was expanded to estimate increases in costs as a result of more outpatient care and capacity.

Reported results to date, comparing the August-October 1996 period with the same period in 1995 were: The share of spending between inpatient and outpatient care has changed favorably, falling in hospitals from 59.8 to 51.8 percent and increasing in polyclinics 38.9 to 46.9 percent. Day care remained at 1.3 percent. Admissions are about the same overall, 23.0 to 22.7 per 1,000 population, but some types of cases have dropped: general medicine from 2.7 to 2.3 per 1,000 population, neurology from 2.7 to 2.4. Inappropriate admissions dropped from 2.6 percent of total admissions to almost zero. The ALOS for all cases has dropped 17.6 to 16.3 days. Reported efficiencies have been achieved in lowering pre-operative days in hospital by 3-4 days on average and in decreasing duplication of tests. The chief doctor complains that too many admissions remain largely "social" admissions, but that he is hamstrung by local indecision on whether he should convert beds to skilled nursing beds or whether this will be done at a nearby hospital.

The physician bonus system is similar to those of the Children's Hospital and Hospital/Polyclinic No. 6, but they have developed additional "positive" indicators related to resource management, such as lowered duplication of tests, preadmission testing and increased preventive services.

MIS development began in early 1996 to "enhance operational and cost efficiency." This facility has now developed a computerized patient registration and tracking system between the polyclinic and hospital for appropriateness reviews. They have been developing and pilot testing a patient-level computerized clinical records system. A software-based referral form was designed. They expressed the interest and need to design and merge clinical, administrative, and financial data systems at the facility level.

5.4 Vishny Volochok Rayon

The rayon catchment area in 1995 was 96,000 (160,000 if the inter-rayon referral areas to the central rayon facility are counted). The Central Rayon Center has a 500-bed general acute hospital (heart and pulmonary cases are generally referred out of rayon). It also has a polyclinic center and women's health center, and approximately 1,000 staff and 200 physicians. The World Bank loan will fund a new consultative, diagnostic, treatment center near the central rayon facility complex. There are now two private dental practices in the rayon. From the beginning of discussions in 1995, the rayon leadership has expressed a desire for family practitioners and GPs with their own offices, detached from polyclinics. There are none yet in urban areas, but some separate arrangements exist in rural areas. There are 300 physicians in the entire rayon.

Over the 18 months that Zdrav*Reform* worked in Tver, the chief doctor of the Center outlined ambitious objectives, including: i) reducing in inpatient costs; ii) achieving an outpatient/inpatient spending ratio of 60/40; iii) reducing ALOS to 10.5 bed-days on average; iv) moving pre-surgical testing to outpatient departments; v) referring fewer patients to oblast-level facilities; vi) reducing duplication of tests; vii) increasing use of feldshers for home visits; viii) making wider use of auxiliary personnel for outpatient/primary care; and, ix) adopting new screening procedures and treatment technologies. With the assistance of consultants from Kemerovo, the rayon has made a number of analyses related to admissions (emergency and planned), local patient flows, inpatient and outpatient treatment costs.

The payment design chosen was per capita-based rayon-level budgets which gave the rayon financial responsibility (and risk) for maintaining and improving the health status of their populations within a given budget. This per capita based budget was approved by the Oblast Health Authority and the THIF. The local branch of the Fund held the money. There are continued concerns about fully pooling funds; currently, there are three separate payment accounts.

To allocate funds from the per capita-based rayon-level budget to health facilities, the rayon has been testing inpatient and outpatient payment methods. On the inpatient side, the rayon facilities have been paid according to an average per case payment set for each department regardless of length of stay, with outlier payments beyond 20 percent of average. The hospital has contracts with each of its departments. For outpatient care, the rayon has developed contracts with physicians and bonus pools equal to base salary. The chief doctor credits incentives and increased use of technology (e.g., endoscopy) with decreasing ALOS. Unfortunately, federal normatives allow him little or no flexibility in hiring and firing of staff.

Contracts with the THIF and the local administration were delayed until late 1996 to decide questions about how to pay for capital, which "base year" to use as the base period for estimating the global budget and what "guarantees" there might be for updates in future years. (For example, does it include inflation, technology, productivity factors, and so on?)

In early 1997, the central rayon hospital will close 60 surgical beds and open a new day care wing, though the latter event will depend upon local legislation providing a labor normative change. Shares in spending for inpatient and outpatient care for all facilities in the rayon have changed from 82 percent and 18 percent respectively in 1995, to 73 percent and 22 percent, in 1996. In 1996, a risk pool was set up, with 5 percent of funds set aside to pay for unexpected expenses. In addition, 15 percent of inpatient funds have been set aside to encourage greater use of ambulatory care. Individual global budgets have been developed for the central rayon polyclinic. These funds are distributed to specialist groups as follows: 15 percent to therapists, 13.5 percent to other specialists, 6.5 percent to gynecologists and 50 percent for paraclinical services. A 3.5 percent incentive pool has been established to reward reductions in duplication of tests and inappropriate referrals.

A series of patient cost sharing tariffs have been developed to encourage better primary care coordination and referrals. This bypass of the normal referral pattern takes on increased importance under the new global budget incentives.

The quality of care and physician bonus system is similar to the other pilot sites. They have developed additional “positive” indicators related to resource management, such as meeting ALOS targets and decreasing admissions, inappropriate admissions and duplication of tests.

Six rayon-based subcommittees have been working on the reform process and implementation of the models. Nevertheless, this rayon site is generally a disappointment, and the historically high budgets allocated to facilities here implies that these facilities will have to undergo some “belt-

tightening" in the coming months and years. There also is some apparent confusion, about who will pay for referrals in and out of the rayon, and what payment rules will govern this set of relationships.

5.5 Kuvshinova Rayon

The rayon catchment area in 1995 was 23,000. The central rayon hospital is a 120-bed general acute hospital. Construction of a new building with 250 beds is being completed. Other participating facilities include three district hospitals, one ambulatory station and 15 feldsher posts.

In 1994 and 1995 about 83 percent of budget revenues came from the THIF, 10 percent from the oblast budget and approximately 7 percent from out-of-pocket payments (e.g., physical exams for new employees in commercial enterprises).

In early 1996, a number of analyses were done to find ways to improve efficiency. They focused on i) inappropriate admissions; ii) duplication of tests; iii) pre-admission testing; iv) reduced ALOS; and v) referrals to sub-acute facilities. Potential savings from these changes were estimated. In addition, patient flow analyses within and outside the rayon were completed, as well as costs per case by department.

An in-hospital cash flow model was designed for pooling funds from the main sources (i.e., the Oblast Health Authority budget, local rayon authority, THIF, selective employer contracts and out-of-pocket). *Importantly, the funds will be pooled and held by the hospital.*

This rayon is the leader among pilot sites. It has a truly integrated revenue base for the entire rayon, although its new payment methods are being implemented only at the central rayon hospital and polyclinic. New methods will be extended across all facilities in the rayons in the future, but there is no target implementation date. If the inpatient and outpatient pools do *not* include feldsher posts, true outreach care and outpatient care may not be achieved in rural areas in a cost-effective manner.

The 1996 revenues are above 1995 levels, in real terms. The ratio of spending between inpatient and outpatient care has changed from 70 percent and 30 percent in 1995 to 55 percent and 45 percent in 1996.

There are now three risk or incentive pools:

- one of 5 percent, held by the chief doctor,
- an inpatient pool of 10 percent, and,
- an outpatient pool of 15 percent.

The outpatient bonus pool will be used for physicians who meet targets related to utilization management (pre-admission testing, lowered admissions and referrals, preventive care including vaccination, outcomes, post-hospital discharge planning, etc.). The inpatient pool will be for

physicians and hospital personnel. Both groups will compete for the funds available proportionally to their participation in the hospital utilization management. For example, post-hospital care planning and follow-through could be the responsibility of a nurse or physician. Bonuses will be based on targets related to ALOS reduction, prevention of infections, pre-surgery reduction of bed-days, prevention of readmissions, etc.. Some portion of the inpatient and outpatient funds will be moved to a special account for chief doctors to create a fund that can be allocated rayon-wide for bonuses and equipment purchases.

The physician bonus system has similarities to the Children's Hospital and Hospital/Polyclinic No. 6, but Kuvshinova has developed additional "positive" indicators related to resource management such as lowered duplication of tests, preadmission testing and increased preventive services. Physician bonuses are allocated to the department level first, based on department comparison scores. Then, the monies are distributed within the department using the indicators. The bonus ratio to the average salary is more than three times (1.3 million rubles compared to a standard pay of 400 thousand rubles). On average, salaries for physicians have increased by 31.3 percent and for nurses by 27.4 percent. The rayon is an exception relative to other pilot sites in that it is dropping the punitive fines and reliance on MES-based measures and moving to use only the quality improvement indicators.

Statistics for the period August through October 1996 compared with the same quarter of 1995 show that:

- admissions have dropped by 11.5 percent;
- percent of day beds has increased from 0.4 percent to 8.0 percent;
- number of bed-days per thousand has dropped by 16.5 percent; and,
- cost per admission has dropped by 18.2 percent.

The rayon has one family practitioner and expects three more by the end of the 1997, but to date there is no special incentive payment or fundholding approach. Initially they will receive a higher salary; later, they will be under an "at-risk" arrangement that is currently unspecified.

6.0 SUMMARY

Tver Oblast has had fragmented and incomplete implementation of its federal insurance reform legislation which called for channeling funds from various sources through a single account from which all insurance and related payments for health care services would be made. Although more and more facilities are being brought under control of the THIF, the share of resources being handled by the Fund is not growing at a commensurate level because there still are laws which require the Ministries of Health and Finance to fund certain budget articles.

Reforms to test various payment alternatives to rayons and to individual health facilities have been implemented sporadically. Most sites have gradually come to accept and test per capita-based rayon-level budgets, global budgets for urban hospitals or some form of case-based payment. Global budgets for pilot sites are being phased in, shifting from 100 percent historical-based budgets to 100 per capita-based global budgets over approximately a five-year period ending in 1998. Various rules, such as how to apply global budgets when predicted volumes are different than actual volumes of service, or how to adjust global budgets over time, still must be established. In some pilot sites, global budgets have not been fully funded because of insufficient funds.

The Children's Hospital, an oblast-wide referral center, is being paid according to a department-level case-mix payment. At one time, it had proposed adopting a global budget, but this was denied out of fears of cost shifting. Both Hospital/Polyclinics No. 6 and No. 1 were expected to go to some form of case-based system, but this never occurred. Vishny Volochok Rayon has implemented per capita-based rayon-level budgets and is testing payments to facilities that include average cost per inpatient case and outpatient physician contracts, but progress is slow. Kuvshinova Rayon has achieved the most progress in payment reform in that funds from the oblast and from the THIF are pooled, payment alternatives are being tested at the central rayon hospital and polyclinic (although the timetable for extension to all facilities has not been set) and three incentive funds have been aside to encourage better utilization management.

In spite of incomplete implementation of new payment methods, pilot facilities have benefited from new management autonomy that accompanies these payment methods. Various labor rules are still problematic, but there is new flexibility in hiring and firing staff, as well as the development and use of bonus funds. Clearly, chief doctors and other managers perceive new opportunities to conduct their own reforms in internal management and resource allocation to maximize efficient and effective use of limited funds.

Quality assurance remains primarily retrospective and punitive in nature. But Kuvshinova Rayon has dropped punitive measures and other pilot sites are adopting some positive quality improvement techniques, focusing on utilization management mechanisms such as reducing inappropriate admissions, pre-admission test duplications and ALOS, and finding alternatives to inpatient care settings. Improvements in utilization management have been achieved at all of the pilot sites.

Progress toward strengthening the financial and clinical aspects of primary health care is extremely limited and slow. Hospital/Polyclinic No. 1 and Vishny Volochok Rayon are paying some attention to primary health care plans for the future . In Kuvshinova Rayon, it is not clear whether the primary health care system will be included in the integrated revenue system, as it should be.

Authorities of the Oblast Health Authority, the THIF and health facility managers all recognize the importance of MIS development, including standard patient-level clinical and financial records supplemented by facility-level data on cost management, quality assurance and insurance. In all pilot sites with the exception of Hospital/Polyclinic No. 1, progress on computerized information systems has been slow.

BIBLIOGRAPHY AND RELATED REFERENCES

A. BIBLIOGRAPHY

Denisov I., Telyukov A., and Sheiman I., "Soviet Health Care: Time of Economic Reforms and Decision-Making," USSR Health Symposium, Johns Hopkins University, Baltimore, Maryland, September 1990.

Kutzin, Joseph, "Hospital Economics and Financing: Proposed Program of Work," prepared for the World Health Organization, December 17, 1993.

Langenbrunner, J., O'Dougherty, S., and M. Borowitz, "A Review of Selected Financing and Reform Activities in Russia and Central Asian Republics," prepared for EDI/World Bank Senior Policy Seminar on Health Reform Implementation in Central Asia (Ashkabad), April 1996.

Organization for Economic Cooperation and Development, Health Systems and Comparative Statistics: Facts and Trends, Volumes I and II, Paris, France, 1993.

Quinn, K., "Shymkent Payment Methods Workshop: Trip Report," prepared for Zdrav*Reform* Program, Bethesda, Maryland, September 1995.

Rowland D., and Telyukov A., "Health Care in the USSR from an American and Soviet Perspective," Health Affairs, 1991.

Sandier, S., "Health Services Utilization and Physician Income Trends," Health Care Financing Review, Annual Supplement, December 1989.

Schieber, G., "Health Care Financing Reform in Russia and Ukraine," Health Affairs, Supplement Issue, 1993.

Schieber, G., and Langenbrunner, J., "Obstacles to Soviet Health Reform," Health Affairs, pp. 312-314, Winter 1991.

Schieber, G., "Pre-Conditions for Health Care Reform: Experiences from the OECD Countries," Health Policy, Volume 32, 1995.

Schieber, G., Anthony, R., Berman, P., Cleland, C. and Rice J., Health Care Financing in Russia, Report of USAID mission to Russia October 1992, Washington, DC, November 24, 1992.

Schieber, G., Poullier, J.P., and L. Greenwald, "Health System Performance in OECD Countries, 1980-1992," Health Affairs, Fall 1994.

Sheiman, I., "Economic Reforms in the Health Sector of the USSR," USSR Health Symposium, Johns Hopkins University, Baltimore, Maryland, 1990.

Sheiman, I, "From Beveredge to Bismarck Model of Health Finance: A Case Study of the Russian Federation," prepared for World Bank, Moscow, 1996.

Sheiman, I., "Introduction of New Forms of Payment for Medical Care: Kaluga Oblast," submitted to the World Bank, Moscow, Russia, 1995.

Sheiman, I., "New Methods of Finance and Management of Health Care in the Russian Federation," paper presented to the Health Sector Reform in Developing Countries Conference, Durham, New Hampshire, September 1993.

Sheiman, I., "State Tax-Financed or Health Insurance Model: A Difficult Choice to be Made in Russia," Discussion Paper 102, York University, United Kingdom, March 1992.

Telyukov A., "A Concept of Health Financing Reform in the Soviet Union," International Journal of Health Services, Volume 3, pp. 493-504, 1991.

World Bank, Russia Federation, Kaluga and Tver Oblasts: Back to Office Report, Jack Langenbrunner, Washington, D.C., December 1996.

World Bank, Russia Federation Health Reform Program: Staff Analysis, George Schieber, Washington, D.C., April 1995.

World Bank, Russia Federation Health Reform Program: Staff Analysis Review, Washington, DC, April 1996.

The following publications are available from the Zdrav*Reform* Program:

Zdrav*Reform* Program, "Kaluga: Trip Report," prepared by Edward Freed, Scientific Laboratory for Medical Cybernetics, Kemerovo, Russia, February/March 1996.

Zdrav*Reform* Program, "Kaluga: Trip Report," prepared by Natalia Matveeva, Kaluga oblast, February/March 1996.

Zdrav*Reform* Program, Kaluga: Trip Report, prepared by Daniel Sherman and Victoria Goldin, Abt Associates, Inc., Bethesda, Maryland, April 5, 1995.

Zdrav*Reform* Program, Russia Country Action Plan, presented to USAID, Moscow; Abt Associates, Inc. Washington, D.C., November 11, 1994.

Zdrav*Reform* Program, Russia: Trip Report, Jack Langenbrunner, Abt Associates, Inc., Bethesda, Maryland, December 1994.

Zdrav*Reform* Program, Technical Assessment in Two Oblasts (Kaluga and Tver) with the World Bank Team, Jack Langenbrunner, Abt Associates, Inc., Bethesda, Maryland, April 1995.

Zdrav*Reform* Program, Technical Assessment and Development of a Technical Assistance and Training Strategy in Two Oblasts: Kaluga and Tver, Jack Langenbrunner, Abt Associates, Inc., Bethesda, Maryland, June 1995.

B. RELATED REFERENCES

Other case studies in this series:

Overview of Case Studies on Payment Reform in the New Independent States, Annemarie Wouters.

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Other Zdrav*Reform* publications:

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Trip Reports:

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CAR/KYR-8 Health Systems Development and Financial Management of the APTKs in the Issyk-kul Oblast Demonstration Area, June 17-July 11, 1995, Karakol, Kyrgystan, by George P. Purvis III.

CAR/KYR-15 Health Facility Licensing and Accreditation and Family Group Practice and Mandatory Health Insurance Fund Update in Issyk-kul Oblast, Karakol, Kyrgystan, January 22-February 16, 1996. Prepared under Task Order 227 by George P. Purvis III.

CAR/KYR-16 Family Group Practice (FGP) and Mandatory Health Insurance Fund (MHIF) Developments in the Issyk-kul Oblast, Karakol, Kyrgystan, April 21-May 11, 1996. Prepared under Task Order 223 by George P. Purvis III.

UKR-33 Second Technical Assistance to Skole Rayon, L'viv Oblast, Ukraine, November 27-December 14, 1995. Prepared under Task Order 331 by Marty Makinen and Peter Cowley, MD.

UKR-37 Strengthening Economic and Business Aspects of Family Medicine and Roll-out of User Fee Experiments to Zhovkva and Yavoriv, L'viv Oblast, Ukraine, October 6-25, 1996. Prepared under Task Orders 331and 333 by Annemarie Wouters.

UKR-42 Health Care Legislation and Experiments in Ukraine: Strengthening Focus on Primary Care, August 5-9 and September 23-October 4, 1996. Prepared under Task Order 365 and 318 by Alexander Telyukov.

RUS-18 Zdrav*Reform* Grant One: Barnaul Development of a Conceptual Framework of Family Practice, Altai Krai, Russia, February 13-March 4, 1995. Prepared under Task Order 144 by Dewees F. Brown.

FINANCIAL MANAGEMENT AND USER FEES

Technical Reports:

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Trip Reports:

CAR/KYR-10 Financial Management of the FGPs and Organizational Development of MHIF/OHD in the Issyk-kul Oblast Demonstration Area, Kyrgystan, September 17-October 14, 1995. Prepared under Task Order 223 by George Purvis III.

UKR-30 A Management Accounting Model Based on the Legal, Organizational, and Financial Development of a Privatized Department within a Public Facility at Polyclinic No.2. L'viv, Ukraine. Prepared under Task Order 333 by Bradford Else.

PAYMENT METHODS

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UKR-10 Design of Managed Care Prepayment Program for the Family Health Center in Odessa, Ukraine, by Kate Westover and Hopkins Holmberg, January 1996

Technical Reports:

UKR-5 An Assessment of Plans to Implement per Capita Financing in the Health System of L'viv Oblast, by James Knowles and Robin Barlow. (Ukrainian and English)

UKR-6 L'viv Intensive Demonstration Site. A Tool Kit for Implementing User Fees and Decentralized Management Accounting Systems in City Hospital No.1 (L'viv, Ukraine) by Annemarie Wouters, November 1995.

Trip Reports:

CAR/KAZ-14 Provider Payment Reforms in Central Asia, July 24-August 4, 1995. Prepared under Task Orders 234 and 235 by Alexander Telyukov.

CAR/KAZ-20 Developing Roll-out of Provider Payment Reforms in Kazakhstan under the New Insurance Reforms Initiative, February 11-24, 1996, by Jack Langenbrunner.

CAR/KAZ-27 Roll-out of Financial and Organizational Reforms: Semipalatinsk Oblast, Kazakstan, April 10, 1996. Prepared under Task Order 292 by Jack Langenbrunner.

CAR/KAZ-28 Transitioning From Design State to Implementation of Financial and Organizational Reforms: Semipalatinsk Oblast, Kazakstan, July 3-6, 1996. Prepared under Task Order 292 by Jack Langenbrunner.

CAR-KAZ-33 Financial Systems Development and Workshop for Family Practice Physicians in Semipalatinsk Oblast, Kazakstan, December 14-21, 1996. Prepared under Task Order 292 by George P. Purvis, III.

CAR/KYR-13 Design of a Case-based Hospital Payment System in Karakol, Kyrgystan, September 8-23, 1995. Prepared under Task Order 227 by Grace Carter.

UKR-23 Design of Managed Care Prepayment Program for the Family Health Center, Odessa, Ukraine. October 24-November 21, 1995. Prepared under Task Order 321 by Kathryn Westover and Hopkins Holmberg

UKR-35 Assistance with National Health Care Financing Legislation, November 4-15, 1996. Prepared under Task Order 365 by Alexander Telyukov.

RUS-14 Developing and Testing Methods of Payment for Ambulatory Health Services, Kemerovo, Russia. Prepared under Task Order 124 by Josh Coburn.

RUS-25 Cost Finding and Case Mix Reimbursement Innovation in Siberia (Tomsk, Novosibirsk) and Moscow, Russia, July-August 1995. Prepared under Task Order 161 by Alexander Telyukov.

RUS-31 Introducing Family Physicians to New Methods of Financial Incentives: Designing and Testing of a Managed Care Model, Tomsk, Kemerovo, Kaluga, and Tver, Russia, January 8-February 11, 1996. Prepared under Task Orders 141, 143, 147, 149 by Henry Leavitt, E. Petrich and Associates Inc.

QUALITY ASSURANCE

Technical Reports:

CAR/KYR-2 Health Facility Accreditation by Greg Becker. Prepared for Karakol, Kyrgyzstan, November 1994. (English and Russian)

UKR-4 Improving Efficiency, Quality and Access under Global Budgeting at City Hospital No.1, L'viv, Ukraine by Annemarie Wouters and Peter Wilson, July 1995

Trip Reports:

UKR-44 Assessment and Recommendations of the Accreditation Process and Standards of the Hospitals of Ukraine, February 28-March 12, 1997. Prepared under Task Order 319 by Janet Farrell.

RUS-22 Training of Russian Physicians in Total Quality Management, Novosibirsk, Russia, April 24-28, 1995. Prepared under Task Order 122 by Hans F.Loken, E.Petrich and Associates Inc.